Yield Response of New Runner-Type Peanut Cultivars to Fungicide Inputs for Leaf Spot Control. P.A. NAVIA GINE*.

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Early and late leaf spot caused by Cercospora arachidicola and Cercosporidium personatum, respectively, cause substantial economic losses in peanut (Arachis hypogaea) through direct reduction of yield and costs associated with fungicidal control. Recently, several new peanut cultivars have been released with excellent yield potential and field resistance to tomato spotted wilt virus. However, the yield response of these cultivars to fungicides applied for leaf spot control has not been thoroughly characterized. To determine this response, field experiments were conducted in 2010 and 2011 in Tifton, GA, and in Attapulgus, and Plains, GA in 2011. In each of these experiments, four cultivars, Florida-07, Georgia-06G, Georgia-07W, and Tifguard, were combined in factorial arrangement with four fungicide treatments, 7, 4, and 3 applications of 1.1 lb ai/A of chlorothalonil (Bravo WeatherStik) and a nontreated control. All application regimes began approximately 35 days after planting, and subsequent applications were made at ca. 14 day intervals. An additional trial was conducted in Tifton in 2010 in which these same treatments were evaluated on Georgia-06G. Applications of 1.0 lb ai/A of flutolanil (Convoy) were made at ca. 60 and 90 days after planting in each trial to minimize effects of Sclerotium rolfsii on yield. Multiple visual leaf spot ratings were made to estimate the levels of defoliation. Late leaf spot was the predominant foliar disease in all trials. Final defoliation and yield (lb/A) were determined for each plot. Leaf spot epidemics varied in severity among the trials, from low disease pressure and few differences in yield among fungicide treatments for any cultivar at Plains in 2011, to moderate to heavy disease pressure late in the season in the Georgia-06 trial in 2010 and the Attapulgus and Tifton trials in 2011. At Tifton in 2010, yields in the Georgia-06G trial were lowest in the nontreated plots (4566 lb/A), but there was no significant difference between the yield of the 7 spray treatment (5892 lb/A) and the 4 spray treatment (5645 lb/A) (LSD = 512). There was no significant cultivar X treatment effect on yield in any of the cultivar X fungicide trials. At Tifton, across cultivars, yields were 5469, 5694, 5686, and 5813 lb/A (LSD = 392) in 2010, and 5193, 5151, 4951, and 4540 lb/A (LSD = 513) in 2011 for nontreated, 3 application, 4 application and 7 application treatments, respectively. At
Attapulgus in 2011, yields were 6264, 5804, 5723, and 5422 lb/A (LSD = 282) for nontreated, 3 application, 4 application and 7 application treatments, respectively. Grade samples were taken for each plot of each trial to allow calculation of value/A for each plot, and economic analysis of response to fungicides is being conducted.